

MINUTES OF 44th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 9th May, 2023 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 43rd Meeting of the EAC (Coal): The minutes of the 43rd Meeting of the EAC (Coal) held on 24th April, 2023 has been confirmed by the Chairman.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 44th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 9th May, 2023 through Video Conferencing. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 44.1

Expansion of Balaram OCP (Earlier known as Kalinga OCP) from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at Villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadhkamar, Khuringa, and Birabarpur, Tehsil Talehar Sadar, District Angul (Odisha) – Reconsideration for Environmental Clearance - reg.

[Online Proposal No. IA/OR/CMIN/411408/2022; File No. J-11015/09/2013-IA.II (M)]

44.1.1 The proposal is for Environmental Clearance for Expansion of Balaram OCP from 8.0 MTPA to 15.0 MTPA with increase of mine lease area from 1309 Ha to 2574.00 Ha (Additional land of 1265 Ha) by M/s Mahanadi Coalfields Limited at villages namely Nakeipasi, Brahmanbahali, Kochianali, Damal, Prasana Nagar, Nathagaon, Majhika, Kalamchhuin, Danara, Natada, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasadhkamar, Khuringa, and Birabarpur, Tehsil Talehar Sadar, District Angul (Odisha).

44.1.2 The committee during deliberations noted the following:

- Earlier, the proposal was considered by EAC in the 40th EAC meeting held during 16-17 February, 2023 and after detailed deliberation, the proposal was deferred wherein the committee requested the PP to submit the information for further consideration.
- Now the project proponent has submitted the replies to observations raised by EAC vide letter dated 26.04.2023 on Parivesh Portal:

S. No.	Point	Reply
i.	The Project proponent shall submit the ATR to compliance of the non-complied point given in EC letter dated 24.10.1990.	Observation (i): It is noted that the water generated after washing of the vehicles in the workshop area is not properly channelized into the ETP. Further, the oil and grease tap installed in the ETP was noted to be non-functional and requires immediate necessary action. The overall process of treatment of ETP needs to be reviewed and revamped. The water being discharged after the treatment was found to have been blocked due to non-maintenance of drainage system. Therefore, it is viewed that the inflow into the ETP and the outflow from the ETP should be properly monitored for its quality. The project should submit an action plan for installation and modernization of the existing ETP (Condition No. ii).

Immediate action has been taken to channelize the water generated after the washing of the vehicles in the workshop area and to clear the blockage in the drain where treated water is being discharged.

Observation (ii): It is viewed that a central laboratory for all the coal mines in the Talcher area, including Balram OCP may be set up for analysis of environmental parameters (Condition No.xiii).

The Routine Environmental Monitoring of existing Balram OCP is being done through NABL accredited lab of M/s CMPDI. All the parameters of air, water, effluent and noise are being monitored in compliance to the conditions stipulated in Environmental Clearance, Consent to Establish and Consent to operate or any other statutory obligations. However, for further compliance to EC condition a field lab will also be set up by March'24.

ii.	The Project proponent shall submit the certified status of the reserve available below fresh forest area.	In proposed expansion of the total forest land involved is 193.845 Ha, out of which 186.765 Ha lies in excavation area, 1.851 Ha lies in safety zone and remaining 5.229 Ha lies in infrastructure area. Out of total forest land of 193.845 Ha, 149.62 Ha is Gopalprasad Reserve forest and remaining 44.225 Ha is Revenue Forest.
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Revenue forests are small forest patches and scattered over expansion area. Therefore, it is quite difficult to separately calculate quantity of coal below every forest patch and hence only coal quantity below Gopalprasad Reserve Forest is mentioned herewith. Considering safe mining slope around forest boundary, uncertainty of structural interpretation and expected mining losses, 122.46 Mt coal will be below the fresh Gopalprasad Reserve Forest.

iii. PP shall submit the approved Mine Plan as per discussion during EAC meeting considering actual plan of mining operation instead of based on assumptions and apprehension.

The Mining Plan and Mine Closure Plan of Balaram OCP expn. (8.0 to 15.0 Mty) was approved by MCL Board vide letter dtd. 17-11-2020. The same will be followed with proper evacuation and rehabilitation of the villages falling within its lease.

As per the approved mine plan, Balaram OCP will touch the Gopalprasad Reserve Forest in 7th to 8th Year (2026-27 to 2027-28). Figure-1 shows the 5 th year mine stage plan where it can be seen that working of mine is around 500 m behind the south direction of the forest while as per 10th year mine stage plan (Fig-2), mine working ahead of the forest boundary. Hence, as per the approved stage plan mine will reach to reserve forest boundary in 7th to 8th year.

iv. The Project proponent shall submit the recorded drone video and Photograph with latitude and longitude showing the current status of the mine closure.

Recorded drone video and Photograph with latitude and longitude showing the status of the mine closure as enclosed.

v. The Project proponent shall submit the area wise detail of minerals i.e. already excavated. Also submit the safeguard that has been taken or to be taken in future for the villages falling in the Mine

As per earlier approved Mining Plan of existing Balaram OCP the total mineable reserve is 165.89 Mt, out of which since inception of mine 131.89 Mt (as on 31-03-23) has been excavated. Therefore, remaining mineable reserve in existing ML area is 34.00 Mt. Details of the same is given below:

Table: Details of existing ML area and reserve

Sl. No.	Particulars	Details
A.	Total ML area	1309.00 Ha
B.	Total Excavation Area	668.00 Ha
C.	Area already excavated (as on 01-04-23)	519.21 Ha

lease area and for nearby villages.

D.	Area to be excavated (as on 01-04-23) (B-C)	148.79Ha
E.	Mineable coal reserve	165.89 Mt
F.	Coal Excavated (as on 01-04-23)	131.89 Mt
G.	Remaining coal reserve (as on 01-04-23) (E-F)	34.00 Mt

In proposed expansion additional excavation area is 1195.70 Ha in which mineable reserve is approx. 657.614 Mt.

In existing ML area one village namely Majhika has yet not displaced. As per the approved Mining Plan this village habitat will be displaced in phase wise manner. Apart from this additional eight (8) villages namely Kalamchhuin, Banabaspur, Telipur, Solada, Satyabadipur, Gopalprasad khamar, Khuringa, and Birabarpur will fall in proposed expansion. However, for the safety of villagers the following safety measures is being and will be taken up.

- A minimum distance of 100 m is being and will be maintained from excavation boundary as per DGMS guidelines.
- Control blasting with delay/Electronic detonators will be adopted for OB removal to reduce its impact over villages.
- Xcentric ripper has been introduced to reduce the blasting.
- Routine Environmental monitoring is being and will be done in core as well as bufferzone to know the baseline values in these villages.
- All the coal for road sale is being and will be dispatched through dedicated coal corridors by passing all villages.
- Fog canon, mobile sprinkler, instant shower and wheel washing system has already been deployed to mitigate air pollution.
- Vertical green barrier has also been developed at railway siding and coal stock yard.
- In proposed expansion 11.0 Mty of coal will be dispatched through washery and SILO.
- A green belt will also be developed all along the nearby village boundaries to reduce impact of air pollution over nearby villages.

- vi. The Project proponent shall submit the certified status of the Project. The total villages falling in existing ML area is nine (9) namely Nakeipasi, Brahmanbahali, Damal, Prasananagar, Nathagaon, Danara, Kalamchhui, Natada and Majhika. Out of these nine villages, part of two villages namely Kalamchhui and Majhika also lies in expansion area.

of the reserve available below the mentioned villages.

The details of the same is given below:

S. No.	Villages in existing Lease	Excavation Area (Ha)	Approx reserve (Mt)	Remarks
1.	Nakeipasi, Brahman bahali, Kalamchhui, Natada(Part), Majhika (Part) and Forest area	519.21	131.89	Already excavated
2.	Majhika(Part) and Natada (Part)	148.79*	34.00	To be excavated

* Out of proposed area to be excavated, 71.0 Ha approx. lies within habitat area of Majhika, below which 13.72 Mt reserve is blocked. Apart from this 67.34 Ha (below approx. 7.5 Mt of Coal) falls in Natada village, which was earlier part of excavation area but now not considered for excavation in proposed expansion.

Village wise details of proposed expansion area			
Sl. No.	Villages in proposed expansion	Excavation Area in Ha	Approx Reserve in Mt
1.	Banabaspur	66.63	62.11
2.	Gopalprasad Khamar	34.62	28.48
3.	Khuringa	66.01	32.58
4.	Solada	378.22	248.87
5.	Birabarpur	32.75	14.36
6.	Majhika	5.93	1.63
7.	Kalamchhui	321.10	70.43
8.	Satyabadipur	9.50	3.65
9.	Telipur	133.57	97.89
10.	Gopal Prasad Reserve Forest	147.35	97.614
	Total	1195.70	657.614

- vii. The Project proponent shall setup a dedicated lab within the Mine lease area for testing purpose, which is also part of non-compliance (in terms of The Routine Environmental Monitoring of existing Balram OCP is being done through NABL accredited lab of M/s CMPDI. All the parameters of air, water, effluent and noise are being monitored in compliance to the conditions stipulated in Environmental Clearance, Consent to Establish and Consent to operate or any other statutory obligations. However, for further compliance to EC condition a field lab will also be set up by March'24.

dedicated lab).

viii. The Project proponent shall submit the present status of the Forest Clearance for 193.845 ha. Application for the forest clearance in Form A Part - III has been submitted to PCCF Nodal office on 03.01.2023. PCCF raised 20 points EDS on 18.01.2023. Compliance of the EDS raised was submitted to DFO, Angul on 02.03.2023. DFO asked for some additional information as per the new checklist which was submitted to DFO, Angul on 31.03.2023.

ix. The Project proponent shall submit the existing and proposed transportation plan in tabular format, which reflects the shift/upgradation of coal transport through mechanized system. The existing and proposed dispatch matrix is as follows:

Existing (8.0 Mty)			Proposed (15.0 Mty)			
Through Rail Siding 9	Road Sale	Washery	SILO	Road sale	Through Rail Siding 9	
5.5 Mty	2.5 Mty	3.5 Mty	7.5 Mty	2.5 Mty	1.5 Mty	
By road through truck 4.87 km from pit top wharf wall loading.	Through dedicated coal corridor	By road through 3.16 km from pit top	Belt conveyor from pit top	Loading by pre weigh automatic truck loading system trapped	By road through truck 4.87 km from pit top wharf wall loading.	

x. The Project proponent shall submit plan to install another CAAQMS in the core zone of mine lease area with display of values on the company website as well as on the electronic board in the direction of village area. CAAQMS has been installed in the core zone of the Mine lease area with display of values on the company website as well as on the electronic board in the direction of village area and company gate.

and company gate.

- xi.** The Project Plan is prepared to show the Site for the Sal Plantation in the next 3 years:

proponent shall submit details for tree plantation plan including number and location for the Sal tree to be planted.

Year	Location	Area
2023-24	Near Coal corridor	2 Ha (15000 Nos. of Gap plantation will be done)
2024-25	Backfilled area	10 Ha (Sal)
2025-26	Backfilled area	10 Ha (Sal)
2026-27	Backfilled area	10 Ha (Sal)

- xii.** The Project Site identified for the construction of Nursery in the Mine lease area of the Balram OCP and Estimate has been prepared by the Chattisgarh Rajya Van Vikas Nigam Limited. Nursery will be developed by the 31.12.2023.

proponent shall submit the plan to develop the nursery of the Sal tree having at least 25,000 of plant capacity and also mention the location for the development of Nursery.

- xiii.** The project Availability of clean fuel based equipment for large scale mining and guaranteed supply in huge quantity is not confirmed. Present equipment configuration has been provided in view of techno-commercial viability of diesel based equipment. As and when techno-commercial viability of clean fuels based equipment is proved, the new resources will be adopted in new projects of MCL.
- proponent to explore the clean fuel (i.e. Biofuels) dumpers for transportation purpose within the mine lease area. The plan should include for the replacement of at least 20% of total vehicle to

be used.

xiv. The Project shall submit the revised EMP budget after considering all of the above points.

The revised EMP budget considering above points is as follows:

Sl. No.	Particular	Budget Rs. In Lakhs
i.	Garland drain & Storm water drainage	57.82
ii.	Rain water harvesting	10.00
iii.	Peripheral village community development	25.00
iv.	Arboriculture	25.00
v.	Green belt development	15.00
vi.	Effluent Treatment Plant & settling pond	115.00
vii.	Air Pollution abatement cost (Mist sprinkler, Fog 1611.00 canon and mobile water tanker)	1611.00
viii.	Vertical green barrier	44.43
ix.	Development of Sal Nursery	95.00
x.	Installation of one (1) CAAQMS	100.00
xi.	Set up of field laboratory	80.00
xii.	Coal handling system including Pipe conveyor and SILO loading system	82154.00
Total		84332.25

xv. PP shall not propose to use forest land for dumping of overburden. As per the mining plan OB removed will be backfilled in the mine void area only and forest land will not be used for the dumping purpose.

- The Committee observed that at a distance of 8.04 kms from North-East boundary of the mine, there is a Kahnejena-Anantapur Elephant Corridor and at a distance of 29.1 Km Satkosia WLS/Tiger reserve is located.
- CTO for 7.74 Mty has been granted by SPCB for the FY 2023-24 dated 22.03.2023 and valid till 31.03.2024.
- Bangaru Jhor flows from SW to NE and another Singada jhor flows in adjacent to north western boundary of the block. There is no diversion link to these streams.
- Past Production details comparison with existing EC:

Year	Coal Achieved (MT)	Actual Production	Excess production beyond the EC sanctioned capacity
1990 – 91	8.00	0.00	Nil
1991 – 92	8.00	0.13	Nil

1992 – 93	8.00	1.21	Nil
1993 – 94	8.00	1.50	Nil
1994 – 95	8.00	1.76	Nil
1995 – 96	8.00	2.57	Nil
1996 – 97	8.00	3.81	Nil
1997 – 98	8.00	4.34	Nil
1998 – 99	8.00	5.03	Nil
1999 – 00	8.00	6.41	Nil
2000 – 01	8.00	4.90	Nil
2001 – 02	8.00	5.28	Nil
2002 – 03	8.00	5.20	Nil
2003 – 04	8.00	4.03	Nil
2004 – 05	8.00	4.85	Nil
2005 – 06	8.00	3.21	Nil
2006 – 07	8.00	4.13	Nil
2007 – 08	8.00	4.91	Nil
2008 – 09	8.00	3.50	Nil
2009 – 10	8.00	3.61	Nil
2010 – 11	8.00	4.55	Nil
2011 – 12	8.00	5.56	Nil
2012 – 13	8.00	5.63	Nil
2013 – 14	8.00	4.57	Nil
2014 – 15	8.00	3.70	Nil
2015 - 16	8.00	2.52	Nil
2016 – 17	8.00	2.81	Nil

2017 – 18	8.00	2.79	Nil
2018 – 19	8.00	3.63	Nil
2019 - 20	8.00	5.23	Nil
2020 - 21	8.00	6.26	Nil
2021-22	8.00	6.52	Nil
2022-23	8.00	7.74	Nil

- The project involves 3715 project affected families to be resettled. R&R of the PAPs will be done as per Orissa Rehabilitation and Resettlement Policy 2006.

44.1.3 *The EAC after deliberation noted that the instant project is for expansion of production capacity from 8 MTPA to 15 MTPA with increase of mine lease area from 1309 ha to 2574 ha, and increased area is contiguous to existing mine. Earlier Environmental Clearance for 8 MTPA production capacity was granted by MoEF&CC vide letter dated 24.10.1990, prior to EIA, Notification, 1994. The committee found that the project proponent requires the forest clearance for additional forest area of 193.845 ha out of 278.855 ha of forest land fall within mine lease area. The project proponent still in the process to get the stage I forest clearance for 193.845 ha.*

During discussion, the committee noted that the sump water is being used for multi-purpose and mine acidic water is allowed to drain into the sump; from where water is being used for industrial activities. Water quality data of sumps indicates that water is being polluted without proper drainage system in existing mine and surface water due to natural topography is allowed seep into the sump. On other hand, while discussing the compliance of existing EC w.r.t non-functioning of ETP, the Committee found that the water generated from the workshop area, mine area and Dump area was not channelized through ETP. The functioning of ETP has been restricted to workshop and for washing trucks only, which was even not properly maintained. On enquiry to expand the ETP capacity with increase of mine production, PP did not have plan to treat the additional wastewater with expansion of mine. The committee opined that ETP would also need expansion with proper plan, and no mine water should be allowed into the sump within the existing mine lease area or in new area. Also ETP be designed in a manner to reduce the burden on extraction of Ground water.

The Committee also noticed that the garland drains were not constructed around the OB which results into seepage of mine water all around in the mine lease area. The Committee instructed to frame the garland drain within the six months before the January, 2024.

Drone video as shown to the committee was restricted to certain area only. In view of lack of water and wastewater management, the committee asked the project proponent to submit the water balance considering the treated ETP water to be recycled for the propose expansion for 15 MTPA of capacity. The committee also noticed that the project proponent did not pay emphasis to transport the

coal through mechanized system. Therefore, committee asks to submit the fresh plan considering 80% of coal to be transported through rail and only 20% through road. The Committee during the discussions found that the project proponent didn't submit the satisfactorily replies to ADS points as well as compliance of EC conditions.

The committee also noted that Kahnejena-Anantapur Elephant corridor exists at distance of 8.04 kms but as of now no plan of WL conservation has been prepared; hence committee asked PP for preparation for plan of elephant corridor (covered under wildlife conservation plan).

In view of the above, committee opined that the project proponent must submit the following documents for further course of action:

- i. The PP shall construct the garland drain in existing mine lease area within six months i.e. before the January, 2024. Also to submit the plan to construct the garland drain for entire mine lease area, and in OB dump area in particular.
- ii. In proposed expansion, PP to submit the plan to handle wastewater through ETP considering 15 MTPA of capacity, which should receive wastewater from mine, Garland drain & workshop
- iii. The PP shall submit water budget considering water recycled from ETP water and NOC obtained for Ground water. Water budget shall prepare in a way so that the burden on the ground water will be less.
- iv. PP shall submit Wildlife Conservation Plan w.r.t. Kahnejena - Anantapur Elephant corridor which is 8.04 kms from the mine lease area.
- v. PP shall submit the coal evacuation plan with firmed timeline for implementation of mechanized system considering 80% of coal to be transported through rail and only 20% through road. PP should come with documentary proof of tendering in this regard and with start of works for further consideration
- vi. Existing sump which being polluted from mine water shall be considered for rejuvenation with development of fish-culture.
- vii. PP shall submit the status of FRA land available forest area of 193.845 ha and get certified from district collector.

In view of the above, the project was **deferred** for submission of observation.

Agenda No. 44.2

Sahapur West UG Coal Mine of 0.6 MTPA (Peak production) in an area of 594.401 Ha of M/s Sarda Energy and Minerals Limited at village Khamariya Khurd, Kushmaha Khurd, Shahpur, Tehsil Pali of District Umariya and village Khamhariya Kala, Kathotiya, Tehsil Suhagpur, District Shahdol (Madhya Pradesh) - For Environmental Clearance – reg.

[Online Proposal No. IA/MP/CMIN/426483/2023; File No. J-11015/280/2010-IA-II (M)]

44.2.1 The proposal is for Environmental Clearance for Sahapur West UG Coal Mine of 0.6 MTPA (Peak production) in an area of 594.401 Ha of M/s Sarda Energy and Minerals Limited at village Khamariya Khurd, Kushmaha Khurd, Shahpur, Tehsil Pali of District Umariya and village Khamhariya Kala, Kathotiya, Tehsil Suhagpur, District Shahdol (Madhya Pradesh).

44.2.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No 64E/7 & 64E/8 and is bounded by the geographical coordinates ranging from Latitude: 23°14'19"N to 23°15'33"N, Longitude: 81° 17'10" E & 81° 18'48" E.
- (ii) Coal linkage of the project is proposed for commercial sale of Coal.
- (iii) Joint venture cartel has been formed: N/A
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, direct employment to 830 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of direct and indirect employment generation in that region.
- (vii) Terms of Reference granted on – (for EC proposals): On the environmental clearance, the coal mine had received a Terms of Reference on 22.11.2021 vide letter no. J-11015/280/2010-IA-II (M) and Amendment in ToR was granted on 12.05.2022 vide F. No. J-11015/280/2010-IA.II (M).
- (viii) Total mining lease area as per block allotment is 619 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal on 21.04.2022.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details: (Area in Ha):

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land (includes few residential houses)	513.411	0.00	513.411
2	Forest Land	80.590	0.00	80.590
3	Wasteland	0.00	0.00	0.00
4	Grazing Land	0.00	0.00	0.00
5	Surface Water Bodies	18.518	0.00	18.518
6	Others (Specify)			
	Road	3.583	0.00	3.583

	Community	2.898	0.00	2.898
	Total Project Area =	619	0.00	619

Post Mining

S. No.	Land use	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump	--	--	--	--	0.00
2	Top Soil Dump	0.030	--	--	--	0.030
3	Excavation	--	--	--	--	-
4	Roads	-	--	4.005	--	4.005
5	Built-up Area	12.049	0.200	--	--	12.249
6	Green Belt	8.020	--	--	--	8.020
7	Undisturbed Area	--	--	--	594.696	594.696
8	Safety Zone	--	--	--	--	-
	Total Area =	20.099	0.200	4.005	594.696	619.0

(x) Total geological reserve reported in the mine lease area is 38.376 MT with 17.38 MT mineable reserve. Out of total mineable reserve of 10.38 MT are available for extraction. Percent of extraction is 29.01%.

(xi) 8 seams with thickness ranging from 1.5m to 4.16m are workable. Grade of coal is G6-G7stripping ratio N/A, while gradient is 1° to 2°.

(xii) Method of mining operations envisages by underground board and pillar method.

(xiii) Life of mine is 19 years.

(xiv) Transportation of coal has been proposed by Coal tippers from bunkers/pit head stockpile to stock yards at railway sidings or other nearby destinations.

(xv) 80.59 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 80.59 ha of forest land for non-forestry purposes is under active consideration at MoEF&CC.

(xvi) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project: **Not Applicable**

(xvii) Wildlife conservation plan for schedule – I species has been submitted to PCCF

(xviii) The ground water level has been reported to be varying between 60-202 m.

(xix) Total water requirement for the project is 409.45 KLD.

(xx) Application for obtaining the approval of the Central Ground Water Authority for 32 KLD has been submitted and NOC has been Granted BY CGWA on 29.12.2022.

(xxi) Public hearing for the project of 0.60 MTPA capacity in an area of 619 ha was conducted on 14.12.2022 at Shasakiya Prathamik Vidyalaya Prangan, (Near Aangan badi) Village: Khamhariya

Kala, Tehsil-Sohagpur District- Shahdol, Madhya Pradesh under the Chairmanship of Additional Collector, Mr. Arpit Verma, a representative authorized by Collector / District Magistrate, Shahdol and Shri Sanjeev Mehra, Regional Officer of M. P. Pollution Control Board, Shahdol.

(xxii) Major issues raised in the public hearing include providing employment to local people, Compensation, water problems, electricity problems, Hospital problem Infrastructure development of road, mandir, community etc.

(xxiii) Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are as under MoEFCC Office Memorandum dated 30.09.2020.

(xxiv) **Revised action Plan to address the public hearing issues arising for Shahdol district**

	Task	Location (Name of School/Village/Area	Year - 1 (In Lakhs)	Year - 2 (In Lakhs)	Total (in Lakhs)
1.	Drinking Water				
	To create drinking water facilities in community:				25
	• Digging of Bore well with provision of submersible Pump & tap water pipe line	Khamhariya kala and Kathotiya	10	0	
	• Installation of Solar Pump, hand Pumps etc	Khamhariya kala	0	5	
	• Recharge of Nearby 5no Ponds through treated mine sump water and installation of water pipelines	Village ponds of Kathotiya	0	10	
2.	Sanitation				
	• To improve village sanitation practices, health & hygiene :	Khamhariya and Kathotiya	1.5	1.5	3
	• Community Toilets & Toilet block (separate for boys & girls)				
3	Education				
	• Quality education development:	Khamhariya and Kathotiya	2.5	2.5	110.5
	• Upgrade teachers skill & staff to impart quality education for the students				
	• Awareness Programs for parents				
	• Sponsorship for Technical Education				
	• Funding sponsorship/scholarship				

	for students				
	<ul style="list-style-type: none"> Construction/Renovation of school buildings and Aanganwadis 	Khamhariya and Kathotiya	25	25	
4	Skill Development				
	<ul style="list-style-type: none"> Create training centre in village and organize & enhance their potential to make them able for the Industry ready 	Khamhariya and Kathotiya	15	15	42.5
	<ul style="list-style-type: none"> Sill development training for women and dependents 	Kathotiya	0	7.5	
	<ul style="list-style-type: none"> Vocational training (15 aspirants per year) 	Khamhariya and Kathotiya	2.5	2.5	
5	Rain water Harvesting				
	<ul style="list-style-type: none"> To develop Rain Water Harvesting structure & system: 	Khamhariya and Kathotiya	0	15	40
	<ul style="list-style-type: none"> Pond deepening 		10	5	
	<ul style="list-style-type: none"> Rain water harvesting structures in village area, community building, school and station 		10	0	
6	Infrastructure				
	Construction of:				
	<ul style="list-style-type: none"> Community hall, 	Khamhariya kala and Kathotiya	10	0	60
	<ul style="list-style-type: none"> Repair/Upgradation of Road 	Khamhariya kala	0	25	
	<ul style="list-style-type: none"> Repair/UpgradationMandir 	Kathotiya	5	0	
	<ul style="list-style-type: none"> Avenue plantation. 	Khamhariya kala and Kathotiya	2.5	2.5	
	<ul style="list-style-type: none"> Installment of solar panels 	Khamhariya kala and Kathotiya	5	10	
7	Health				0
	<ul style="list-style-type: none"> Organized Health Awareness 	Khamhariya kala and Kathotiya	8.5	10	18.5
	<ul style="list-style-type: none"> Check Up Camp 				
	<ul style="list-style-type: none"> Mobile Health Unit 				
	<ul style="list-style-type: none"> Mine Dispensary will be open for all on Weekends 				
8	Art, Culture & Sports				0
	<ul style="list-style-type: none"> Promotion of local Art, Culture& Sports 	Khamhariya kala and Kathotiya	2.5	2.5	5

	<ul style="list-style-type: none"> Sponsor & Conduct village level sports & cultural events 				
	<ul style="list-style-type: none"> Sponsoring local talent to compete in state and national level tournaments 				
	<ul style="list-style-type: none"> Development of Local Grounds 	Khamhariya kala			0
	Livelihood				0
	Agricultural Programme				
9	<ul style="list-style-type: none"> Local farmers with ownership of more than 1 Acre will be provided the following: 	Khamhariya kala and Kathotiya	25	25	50
	<ul style="list-style-type: none"> Arrangement of Financial assistance, bank loan and subsidy. 				
	<ul style="list-style-type: none"> Training in modern farming technology 				
	<ul style="list-style-type: none"> Free/ subsidized seeds through Satva Seeds (a group company of SEML). 				
	<ul style="list-style-type: none"> Corporative Farming 				
	<ul style="list-style-type: none"> Firm Rate contract for buyback through SEML's subsidiary M/s Chhattisgarh investments limited providing secured earnings 				
	Total		161	193.5	354.5

xxv. Public hearing for project of 0.60 MTPA capacity in an area of 619 ha was conducted on 16.12.2022 at Government Primary School, Village Khamhariya Khurd, Tehsil-Pali, District- Umaria (MP) under the Chairmanship of Additional Collector, Mrs. Misha Singh, representative of Collector / District Magistrate Umaria and Shri Sanjeev Mehra, Regional Officer of M. P. Pollution Control Board, Shahdol.

xxvi. Major issues raised in the public hearing include providing employment to local people, Compensation, water problems, electricity problems, Hospital problem Infrastructure development of road, mandir, community etc.

xxvii. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are as under MoEF&CC Office Memorandum dated 30.09.2020.

xxviii. **Revised action Plan to address the public hearing issues arising for Umaria District:**

	Task	Location (Name of School/Village/Area)	Year - 1 (In Lakhs)	Year - 2 (In Lakhs)	Total (in Lakhs)
1.	Drinking Water				
	To create drinking water facilities in community:				30
	<ul style="list-style-type: none"> Digging of Bore well with provision of submersible Pump & tap water pipe line 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	10	0	
	<ul style="list-style-type: none"> Installation of Solar Pump, hand Pumps etc 	Khusmaha Khurd, Khamaharia Khurd	0	10	
	<ul style="list-style-type: none"> Recharge of Nearby 5 no Ponds through treated mine sump water and installation of water pipelines. 	Village ponds of Khamaharia Khurd, Khusmaha Khurd	0	10	
2	Sanitation				
	To improve village sanitation practices, health & hygiene :				
	<ul style="list-style-type: none"> Community Toilets & Toilet block (separate for boys & girls) 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	3	1.5	19.5
	<ul style="list-style-type: none"> Installation of Bio Gas Units 	Sahapur	0	15	
3	Education				
	Quality education development:				
	<ul style="list-style-type: none"> Upgrade teachers skill & staff to impart quality education for the students 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	2.5	2.5	87
	<ul style="list-style-type: none"> Awareness Programs for parents 		1	1	
	<ul style="list-style-type: none"> Sponsorship for Technical Education 		10	10	
	<ul style="list-style-type: none"> Funding sponsorship/scholarship for students 		5	5	
	<ul style="list-style-type: none"> Construction/Renovation of school buildings and Aanganvadis 	Khusmaha Khurd, Khamaharia Khurd	25	25	
4	Skill Development				

	<ul style="list-style-type: none"> Create training centre in village and organize & enhance their potential to make them able for the Industry ready 	Khusmaha Khurd	15	15	42.5
	<ul style="list-style-type: none"> Skill development training for women and dependents 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	0	7.5	
	<ul style="list-style-type: none"> Vocational training (15 aspirants per year) 		2.5	2.5	
5	Rain water Harvesting				35
	To develop Rain Water Harvesting structure & system:				
	<ul style="list-style-type: none"> Pond deepening 		15	0	
	<ul style="list-style-type: none"> Watershed development 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	5	0	
	<ul style="list-style-type: none"> Rain water harvesting structures in village area, community building, school and station 		0	15	
6	Infrastructure				
	Construction of				
	<ul style="list-style-type: none"> Community hall, 	Khamhariya kala, and Khusmaha Khurd	10	10	70
	<ul style="list-style-type: none"> Repair/Upgradation of Road 		25	0	
	<ul style="list-style-type: none"> Repair/UpgradationMandir 	Sahapur	0	5	
	<ul style="list-style-type: none"> Avenue plantation. 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	5	5	
	<ul style="list-style-type: none"> Installment of solar panels 	Sahapur	5	5	
7	Health				
	<ul style="list-style-type: none"> Organized Health Awareness 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	10	10	20
	<ul style="list-style-type: none"> Check Up Camp 				
	<ul style="list-style-type: none"> Mobile Health Unit 				
	<ul style="list-style-type: none"> Mine Dispensary will be open for all on Weekends 				
8	Art, Culture & Sports				
	<ul style="list-style-type: none"> Promotion of local Art, Culture& Sports 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	5	5	10
	<ul style="list-style-type: none"> Sponsor & Conduct village level sports & cultural events 				
	<ul style="list-style-type: none"> Sponsoring local talent to 				

	compete in state and national level tournaments				
	• Development of Local Grounds	Khamaharia Khurd			
	Livelihood				
	Agricultural programme:				
9	<ul style="list-style-type: none"> Local farmers with ownership of more than 1 Acre will be provided the following: Arrangement of Financial assistance, bank loan and subsidy. Training in modern farming technology Free/ subsidized seeds through Satva Seeds (a group company of SEML). Corporative Farming Firm Rate contract for buyback through SEML's subsidiary M/s Chhattisgarh investments limited providing secured earnings 	Khusmaha Khurd, Khamaharia Khurd and Sahapur	25	25	50
	Total		179	185	364

- xxix. Consent to Operate for the existing capacity was obtained from the State PCB on and is valid till: N/A
- xxx. Ghogra Nala & Ghinau Chiha Nalla river/nalla is flowing within the boundary of lease. The nallah will not be diverted as no mining shall be done below water bodies.
- xxxi. Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- xxxii. No court cases, violation cases are pending against the project of the PP.
- xxxiii. The project involves affected families. R&R of the PAPs will be done as per..... : **Not applicable as no resettlement has been proposed. Employment will be provided as per prevailing norms.**
- xxxiv. Total cost of project is Rs. 421.86 crores. Cost of production has been estimated as Rs 2000/Ton (Tentatively). CSR will be undertaken as per Companies Act 2013. As per OM dated 30th September 2020 vide letter no. F.No. 22-65/2017-IA.III by MOEF & CC budget

allocation for CER. is 6.375 Crores, R&R cost is N.A. Environment Management Cost is Rs. 41.91 Cr.

- xxxv. Consent to operate (CTO) was obtained from the State Pollution Control Board on _____ and is valid till: **N/A**
- xxxvi. Past Production details comparison with existing EC: **N/A**.
- xxxvii. Base line monitoring status:
- a) Mention the Period/ Season of baseline study carried out.: 1st December, 2021 to 28th February 2022,
 - b) Whether the Laboratory has been accredited by the NABL/MoEF&CC certification involved in analysis of water, air, noise & soil quality data, also providing its respective lab reports: yes.
 - c) Detail of Air quality and surface water quality
 - i. Air quality: Number of sampling location monitored: 12 locations

The result indicates that the maximum and minimum values of PM10 are in the range of 27.5 to 42.8 $\mu\text{g}/\text{m}^3$ whereas the PM2.5 are in the range of 47.7 to 71.8 $\mu\text{g}/\text{m}^3$. The SO2 concentrations within the study area are in the range of 6.1 to 10.2 $\mu\text{g}/\text{m}^3$, and the NOx are in the range of 9.5-20.5 $\mu\text{g}/\text{m}^3$

The incremental increase in the values were projected to be 3.02 $\mu\text{g}/\text{m}^3$ for PM10, 1.51 $\mu\text{g}/\text{m}^3$ for PM2.5, 1.51 $\mu\text{g}/\text{m}^3$ for SO2, and 0.68 $\mu\text{g}/\text{m}^3$ for NOx. The value of Total GLC is 70.02 $\mu\text{g}/\text{m}^3$ for PM10, 42.01 $\mu\text{g}/\text{m}^3$ for PM2.5, 11.01 $\mu\text{g}/\text{m}^3$ for SO2, and 20.18 $\mu\text{g}/\text{m}^3$ for NOx. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be in the norms.

ii. **Surface water quality-**

Number of sampling location monitored: 8 locations. During the analysis pH of the samples was found in the range of 7.24-7.95. TDS analysis was also carried out for surface water sample and it was found in the range of 235-460 mg/L. DO measured during analysis was found in the range of 4.5-5.8 mg/L. COD measured during analysis was found in the range of 10-32 mg/L. BOD measured during analysis was found in the range of 2.1-7.2 mg/L. MPN test was also carried out for this surface water sample and it was found positive. It indicates towards the fecal contamination in surface water body.

44.2.3 The Committee during the deliberation observed the following points:

- (i) PP has obtained Terms of Reference and Amendment in ToR vide letter no. J-11015/280/2010-IA-II (M) dated 22.11.2021 & 12.05.2022 respectively.
- (ii) The Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal on 21.04.2022. Life of mine is 19 years
- (iii) The proposal for forest clearance for diversion of forest land of 80.59 ha has been applied and the same is under consideration at MoEF&CC.

- (iv) PP has obtained the NOC from Central Ground Water Authority for 32 KLD dated 29.12.2022.
- (v) Public hearing for the project of 0.60 MTPA capacity in an area of 619 ha was conducted on 14.12.2022 & 16.12.2022 at Shahdol, and Umaria districts of Madhya Pradesh. Major issues raised in the public hearing includes providing employment to local people, Compensation, water problems, electricity problems, Hospital problem Infrastructure development of road, mandir, community, etc.
- (vi) Wildlife conservation plan for schedule – I species has been submitted to PCCF.
- (vii) Ghogra Nala & Ghinau Chiha Nalla river/nalla is flowing within lease area will not be diverted as no mining shall be done below water bodies.
- (viii) The Baseline study was carried out on 1st December, 2021 to 28th February 2022.
- (ix) The project proponent has submitted the revised Budget for Public Hearing for Shahdol and Umaria District.

44.2.4 *The EAC after deliberations noted that the instant proposal is a green field underground project wherein committee during deliberation had emphasized for protection of existing agricultural land inside the mine lease area and suggested the same should not be disturbed due to mining activity except construction of haul road and necessary infrastructure at Govt land/ Private land. The PP has obtained the ToR and its amendment vide dated 22.11.2021 & 12.05.2022 and based upon the same after collecting baseline study has conducted Public hearing in two district namely Shahdol, Umaria vide dated 14.12.2022 & 16.12.2022. It was noted that River/Nalliah flowing inside the mine lease area namely Ghogra Nala & Ghinau Chiha will not be diverted; the PP shall make effort to protect the water bodies and maintain the flow of the river.*

The Committee also noted that PP has to obtain forest clearance for the 80.59 ha of forest land. The subsidence study has been conducted by IIT Kharagpur in July, 2022. While discussing the coal evacuation plan, the Committee advised to have dedicated coal transportation route which should not pass through any of the village road. As proposed by PP, the Committee agreed to utilize the budget finalized during the public hearing held at Shahdol district 354.50 lakh and for Umaria district i.e. 364 lakh.

The budget will be utilized to address the public hearing concern of both the district mainly related to employment, Drinking Water, Sanitation, Education, Rain water Harvesting, Health, Agricultural programme etc. While endorsing the proposed expenditure on public hearing, it was desired to bear the recurring cost out of CSR for sustaining the assets. EAC noted that EMP budget of 4191 lakhs along with recurring cost of 615 lakhs should be managed properly.

*After deliberation, EAC **recommended** the proposal for grant of Environmental Clearance to Sahapur West UG Coal Mine of 0.6 MTPA (Peak production) in an area of 594.401 Ha of M/s Sarda Energy and Minerals Limited at village Khamariya Khurd, Kushmaha Khurd, Shahpur, Tehsil Pali of District Umariya and village Khamhariya Kala, Kathotiya, Tehsil Suhagpur, District Shahdol (Madhya Pradesh) under EIA Notification, 2006 and subsequent amendments/circulars there to*

subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

Specific condition

- i. PP shall submit Stage-I Forest Clearance of forest land 80.59 ha required for non-forestry activity prior to grant of Environment Clearance. As proposed, PP shall utilize forest land for infrastructure purposes.*
- ii. PP shall obtain CTE/CTO from State Pollution Control Board for 0.6 MTPA capacity*
- iii. PP to protect agriculture field as well as River/Nallah lying inside the mine lease area and no nala/drain diversion shall be undertaken.*
- iv. As proposed, PP to implement EMP budget of Rs. 4191 lakh as capital expenditure on pollution control measures with annual recurring cost of Rs. 615 lakh.*
- v. As proposed, PP shall implement the public hearing budget on the items given above at 44.2.2 (xxiv) and (xxviii) separately for Shahdol district i.e. 354.50 lakh and for Umaria district i.e. 364 lakh.*
- vi. PP shall install observatory wells at suitable locations to monitor the ground water level and probable impact due to mining.*
- vii. As proposed, PP shall transport coal from underground faces by conveyor belt to silos for storage and loading. PP shall deploy only 40 tonnes covered trucks to reduce fleet size till railway siding.*
- viii. PP shall construct a dedicated pucca road joining to NH for transportation of coal with plantation on either side of the road.*
- ix. PP shall develop a rain water harvesting pond (min 1000 sq m and the depth will be 3 m) for the villagers in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.*
- x. PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
- xi. PP to plant additional fruit bearing plants with three tier plantation along the transportation route and identified areas with consent to the gram panchayat within two year.*
- xii. PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged to ponds/nallah/river.*
- xiii. PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.*
- xiv. PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be*

uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.

- xv. *PP must explore innovative technology to recover methane from gases extracted from underground mine while venting.*
- xvi. *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities*
- xvii. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xviii. *PP shall install fixed fog cannon (mist spayer) and fixed sprinkler all along the coal transportation route and accordingly sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed.*
- xix. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xx. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
- xxi. *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- xxii. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xxiii. *PP to fulfill all the commitment made in the minutes of public hearing to address the issues raised therein in a time bound manner and a progressive report to be furnished to IRO in every six monthly as compliance report.*
- xxiv. *The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.*
- xxv. *PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- xxvi. *PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of*

Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non-compliance or infringement should be reported to the concerned authority.

- xxvii. *PP to implement the recommendation of land subsidence study carried out for underground mine and report shall be submitted to IRO in every six monthly report*
- xxviii. *PP to obtain the star rating as per the guidelines of Ministry of Coal.*
- xxix. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 44.3

Bhivkund underground Coal Mine project of production capacity 0.72 MTPA (Normative)/1.08 MTPA(Peak) in the mine lease area of 802 Ha of M/s Sunflag Iron & Steel Company Ltd. located at villages Visapur and Nandgaonpode and Urban Area of Ballarpur Tehsil Ballarpur, District Chandrapur (Maharashtra) - For Amendment in Terms of Reference dated 15.03.2023-reg. [Proposal No. IA/MH/CMIN/425645/2023; File No. J-11015/252/2010-IA-II(M)]

44.3.1 The proposal is for Amendment in Terms of Reference dated 15.03.2023 for Bhivkund underground Coal Mine project of production capacity 0.72 MTPA (Normative)/1.08 MTPA(Peak) in the mine lease area of 802 Ha of M/s Sunflag Iron & Steel Company Ltd. located at villages Visapur and Nandgaonpode and Urban Area of Ballarpur Tehsil Ballarpur, District Chandrapur (Maharashtra).

The PP has requested to Ministry for amendment in Terms of Reference dated 15.03.2023 for Bhivkund Coal Mine such as:

Description	Reference	Existing	Proposed/Amendment	Reason
Approved ToR	Specific condition (i)	PP to modify the mine plan for UG and EIA/EMP shall be prepared for UG mining operation	EIA/EMP shall be prepared for UG mining operation.	Life of mine-73 yrs (initial 64 yrs UG followed by 11 yrs OC with 2 overlapping yrs). MOC gave in-principal to MP on 10.02.2023, prior to TOR presentation. Request to exempt

				from modifying MP on basis of undertaking to restrict EIA to UG (first 64 yrs).
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44.3.2 EAC after deliberations noted that PP has already prepared the mine plan and accordingly mining shall be started within a year or so. Though PP committed to committee to undertake the UG mining only, and he has requested to get it amended in next 5 years as per the guidelines of MoC. The Committee agreed to the request of PP and proposed to prepare the EIA-EMP report with existing mine plan. Accordingly following amendment is recommended

Specific TOR condition no.	Existing condition	EAC recommendation
Specific condition (i)	PP to modify the mine plan for UG and EIA/EMP shall be prepared for UG mining operation	EIA/EMP shall be prepared for UG mining operation as per the existing mine plan, which shall be modified at later stage as per the guidelines of MoC.

Based on the above, EAC **recommended** the proposal for grant of amendment of Terms of Reference dated 15.03.2023 for Bhivkund underground Coal Mine project of production capacity 0.72 MTPA (Normative)/1.08 MTPA(Peak) in the mine lease area of 802 Ha of M/s Sunflag Iron & Steel Company Ltd. located at villages Visapur and Nandgaonpode and Urban Area of Ballarpur Tehsil Ballarpur, District Chandrapur (Maharashtra).

Additional Agenda No. 44.4

Utkal-E Coal Block of 2 MTPA in mine lease area of 729.48 ha of M/s National Aluminium Company Ltd. (NALCO) located at Talcher Coalfields, in villages Nandichhod (Gopiballvapur), Gopinath Jungle, Kosala, Korada, Kundajhari Jungle, and Durgapur Jungle, Tehsil Chhendipeda, District Angul, Orissa – Transfer of Environmental Clearance dated 10.12.2007 from M/s National Aluminium Company Ltd. (NALCO)

44.4.1 The proposal is for Transfer of Environmental Clearance dated 10.12.2007 in the name of M/s National Aluminum Company Ltd. (NALCO) after reallocation of Utkal E mine by Ministry of Coal under the Coal Mines (Special Provisions) Act, 2015 as per Allotment Order No. F.No. 103/34/2015 NA dated 02.05.2016. Earlier the said mine was deallocated by Hon'ble Supreme court vide their Judgement dated 25.08.2014.

The Committee during the EAC meeting observed the followings: -

- i. Though transfer cases are required to be processed within Ministry itself, but the instant proposal of transfer of EC has been referred to EAC by Ministry for examination.
- ii. PP has obtained the Environment Clearance on 10.12.2009 for Utkal-E Coal Block for 2 MTPA capacity in mine lease area of 729.48 ha by M/s National Aluminium Company Ltd. (NALCO) located in Talcher Coalfields, at villages Nandichhod (Gopiballvpur), Gopinath Jungle, Kosala, Korada, Kundajhari Jungle, and Durgapur Jungle, Tehsil Chhendipeda, District Angul, Orissa.
- iii. Followings are project description as per the EC granted vide dated 10.12.2009:

S.No.	Particulars	Within Mine lease (Ha)	Outside Mine lease (Ha)	Total (Ha)
I.	Land Area	526.06	203.42	729.48
II.	Forest land involved	171.51	56.63	228.14
III.	FC Stage I & II obtained by PP	156.1779	0	156.1779
IV.	FC pending for forest land (II – III)	15.3321	56.63	71.9621

- iv. The project involves 729.48 ha of total land, wherein 526.06 ha covered in Mine lease area and 203.42 ha outside the mine lease area, which is earmarked for infrastructure. In entire project area, total 228.14 ha of forest land involved. However, PP has obtained FC - Stage I & Stage II for 156.1779 ha of forest land for diversion.
- v. PP has obtained forest clearance for 156.1779 ha out of total 171.51 ha of forest land and FC for remaining 15.3321 ha is yet to be obtained by PP.
- vi. Outside the ML area i.e. in 203.42 ha (earmarked for infrastructure), total 56.63 ha of forest land is involved. However, presently no forest clearance has been obtained by PP on this land.
- vii. Against the total forest land of 228.14 ha, FC Stage I&II has been obtained for only 156.1779 ha.
- viii. Besides, PP has obtained ToR vide letter dated 12.05.2017 for Utkal E and Utkal D (adjacent mine). Validity of this ToR has been expired and No EIA-EMP report has been submitted by PP for taking EC.
- ix. Utkal D (adjacent mine) has been transferred to M/s NALCO on 11.08.2020 for 2 MTPA capacity after reallocation under the Coal Mines (Special Provisions) Act, 2015. The mine is reported to be operational.
- x. EAC observed that the Hon'ble Supreme Court vide judgement dated 6th July, 2011 in WP No.202 of 1995 in the matter of T.N. Godavarman Thirumulpad Vs Union of India & others has inter-alia directed that '...in cases where environmental clearance is required for a project on forest land, the forest clearance shall be obtained before the grant of the environment

clearance.....These guidelines are required to be given so that fait accompli situations do not recur...’

From above judgment the Committee inferred that in Cases of EC including EC transfer matter, the project area involving forest for diversion shall have forest clearance before grant of EC.

44.4.2 *The committee after detailed deliberation noted that the PP needs to obtain the FC for entire land falls within project area and as per” Hon’ble Supreme Court vide judgement dated 6th July, 2011 in WP No. 202 of 1995 in the matter of T.N. Godavarman Thirumulpad Vs Union of India & others”. However, in the present case of EC transfer, PP has obtained Forest Clearance for 156.1779 ha against the total forest land of 228.14 ha. In view of the Judgment of Supreme court, the Committee asked PP to submit either the Revise Mine plan with Map excluding the area (71.9621 ha) for which Stage-I FC has not been granted.*

However, during discussion PP requested committee to exclude the area of 228.14 ha and consider the executed ML area only for 526.06 ha. PP also informed that they have prepared the mine plan for 526.06 ha of land. In this context, the committee noted that even if area of 228.14 is excluded from the project area, the PP still needs to obtain FC Stage I & II for 15.3321 ha of forest land as currently FC Stage I & II for 156.1779 ha of forest land has been obtained out of total forest land of 171.51 ha, which fall in ML area. In this situation PP needs to submit the followings:

- (i) Stage-I FC of remaining forest land i.e 15.3321 ha involved in mine lease area to be diverted for non-forestry activities or*
- (ii) Submit Revise Mine plan with Map excluding the area for which Stage-I FC has not been granted.*

The Committee finally recommended to MoEF&CC to opt either of above options. Finding no other alternative in the matter, finally the project proponent informed the committee that the application for transfer of EC for Utkal-E project will be withdrawn by them due to involvement of pending FC for forest area of 15.3321 ha, which will take considerable time. PP vide letter dated 17.05.2023 requested MoEF&CC for withdrawal of current application of EC transfer and also desired to submit an application of merger of EC for Utkal D and Utkal E by taking fresh EC.

Based on request of PP, EAC finally recommend MoEF&CC that instant application may be returned in view of revised strategy of PP.

Annexure-I

Standard EC Conditions for Coal Mining Project (Opencast mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

(a) Statutory compliance

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).
- (iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
 - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid airborne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J- 20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
 - (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
 - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement(standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
 - (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution

Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Mining Plan

- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued

vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) Green Belt**
 - (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
 - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
 - (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
 - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
 - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
 - (iv) Implementation of the action plan on the issues raised during the public hearing shall be

ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(j) Miscellaneous

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes

(Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

Standard EC Conditions for Coal Mining Project (Underground mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

I. Statutory compliance:

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to be addressed in accordance with the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and

NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the

SPCB

- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the

project site at a suitable location. The circular No. J- 20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on

it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.

- xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.
- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office

(RO).

- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife

Department.

- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The greenbelt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical

medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.

- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
- vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of

implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions.

The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subjectmatter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water(Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
- viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
- ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
- x. The temporary reject sites should appropriately be planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J- 20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
- vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
- viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
- ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
- x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be

sent regularly to MOEFCC/RO. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

- xii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

- i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis
- ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

- i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.
- ii. Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for

occupational diseases and hearing impairment, if any. as amended time to time.

- ii. Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iii. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- iv. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their

- project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local n
- ii. newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - iii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - iv. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - v. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - vii. The project proponent shall submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
 - xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

- xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE-IV

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be

avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc). Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.

- xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A toposheet specifying locations of the State, District and Project site should be provided.
- (iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc. should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion

/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.

- (x) Similarly, if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

LAND USE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

Sl. No.	Land use	Within ML area (ha)	Outside ML area (ha)	Total
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by

an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.

- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of

- various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. -- to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

Table 1: Stage-wise Land use and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th Year	24 th Year (end of mine life)*
1.	Backfilled Area Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area(brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL					

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

S. No.	YEAR*	Green Belt		External Dump		Backfilled Area		Others(Undisturbed Area/etc)		TOTAL	
1.	1 st year										
2.	3 rd year										
3.	5 th year										
4.	10 th year										
5.	15 th year										
6.	20 th year										
7.	25 th year										
8.	30 th year										
9.	34 th year (end of mine life)										
10.	34-37 th Year (Post-mining)										

* As a representative example

(xxxi) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

Table 3: Post-Mining Land use Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
5.	Built up area					
6.	Green Belt					
7.	Undisturbed Area					

	TOTAL					
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- (xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.
- (xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxxix) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xli) In built mechanism of self-monitoring of compliance of environmental regulations

should be indicated.

- (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept.(if req.), etc. wherever applicable.

FOREST CLEARANCE: Details on the Forest Clearance should be given as per the format given:

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND AND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COAL MINE PROJECT

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major

industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.

- (iv) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

S. N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights(ha)	Area under Both (ha)
1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out

by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.

- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining

- trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
 - (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
 - (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
 - (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
 - (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
 - (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
 - (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
 - (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
 - (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
 - (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-

economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.

CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxvii) Corporate Environment Responsibility:

- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
- d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

(xxviii) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xxix) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xxx) Status of any litigations/ court cases filed/pending on the project should be provided.

(xxxi) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xxxii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

Details on the Forest Clearance should be given as per the format given:

Total ML /Project Area (ha)	Total Forest Land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl. For diversion of forest land

		If more than one provide details of each FC			
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ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST-CUM UNDERGROUND COAL MINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity of....MTPA for OC-cum-UG project which consists of.... MTPA in an ML/project area of ha for OC and MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum underground mining.

**LIST OF PARTICIPANTS OF EAC (COAL) IN 44th MEETING HELD ON 9th May,
2023 THROUGH VIDEO CONFERENCING**

1.	Shri G.P Kundargi			1- DAY
		-	Chairman	P
2.	Dr. N. P. Shukla	-	Member	A
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P
5.	Shri K.B. Biswas	-	Member	P
6.	Dr. Nandini.N	-	Member	P
7.	Dr. Unmesh Patnaik	-	Member	A
8.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P
9.	Shri M.P Singh, Representative of CEA	-	Member	P
10.	Dr. Santosh Kumar Hampannavar	-	Member	P
11.	Prof R.K. Giri Representative of IMD	-	Member	A
12.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	P
13.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P